WHAT IS CLAIMED IS:

1. An interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, the interface circuit comprising:

an interface communication section for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the interface communication section and the system interface communication section;

wherein the interface control section includes:

(a) a first execution section for executing first reset processing;

(b) a first request section for requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) a second request section for requesting the system interface communication section to receive a report of the permission of the execution of the second reset processing from the system controller;

(d) a second execution section for executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(e) a third request section for requesting the interface communication section to report completion of the second reset processing to the upstream device.

2. An interface circuit according to claim 1, wherein the interface communication section performs communication with the upstream device via a bus.

3. An interface circuit according to claim 2, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

4. An interface circuit according to claim 3, wherein:

the first reset processing does not include prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

5. A disc controller, comprising:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus;

wherein the interface circuit includes:

an interface communication section for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the interface communication section and the system interface

communication section;

wherein the interface control section includes:

(a) a first execution section for executing first reset processing;

(b) a first request section for requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) a second request section for requesting the system interface communication section to receive a report of the permission of the execution of the second reset processing from the system controller;

(d) a second execution section for executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(e) a third request section for requesting the interface communication section to report completion of the second reset processing to the upstream device.

6. A disc controller according to claim 5, wherein the interface communication section performs communication with the upstream device via a bus.

7. A disc controller according to claim 6, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

8. A disc controller according to claim 7, wherein:

the first reset processing does not include

prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

9. A disc drive apparatus, comprising:

an interface circuit for performing communication with an upstream device and with a system controller; and

the system controller;

wherein the interface circuit includes:

an interface communication section for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the interface communication section and the system interface communication section,

wherein the interface control section includes:

(a) a first execution section for executing first reset processing;

(b) a first request section for requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) a second request section for requesting the system interface communication section to receive a report of the permission of the execution of the second reset processing from the system controller;

(d) a second execution section for executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(e) a third request section for requesting the interface communication section to report completion of the second reset processing to the upstream device;

wherein the system controller reports the permission of the execution of the second reset processing to the interface circuit.

10. A disc drive apparatus according to claim 9, wherein the interface communication section performs communication with the upstream device via a bus.

11. A disc drive apparatus according to claim 10, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

12. A disc drive apparatus according to claim 11, wherein:

the first reset processing does not include prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

13. A disc drive apparatus, comprising:

a disc controller; and

a system controller;

wherein the disc controller includes:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with an upstream device and with a system controller;

wherein the interface circuit includes:

an interface communication section for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the interface communication section and the system interface communication section;

wherein the interface control section includes:

(a) a first execution section for executing first reset processing;

(b) a first request section for requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) a second request section for requesting the system interface communication section to receive a report of the permission of the execution of the second reset processing from the system controller;

(d) a second execution section for executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(e) a third request section for requesting the interface communication section to report completion of the second reset processing to the upstream device;

wherein the system controller reports the permission of the execution of the second reset processing to the interface circuit.

14. A disc drive apparatus according to claim 13, wherein

the interface communication section performs communication with the upstream device via a bus.

15. A disc drive apparatus according to claim 14, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

16. A disc drive apparatus according to claim 15, wherein:

the first reset processing does not include prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

17. An interface control method, in an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, for controlling an interface communication section for performing communication with the upstream device and a system interface communication section for performing communication with the system controller, the interface control method comprising the steps of:

(a) executing first reset processing;

(b) requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) requesting the system interface communication section to receive a report of the permission of the execution

of the second reset processing from the system controller;

(d) executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(e) requesting the interface communication section to report completion of the second reset processing to the upstream device.

18. An interface control method according to claim 17, wherein the interface communication section performs communication with the upstream device via a bus.

19. An interface control method according to claim 18, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

20. An interface control method according to claim 19, wherein:

the first reset processing does not include prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

21. An interface control method, in a disc controller including a disc recording and reproduction control section for performing data recording to and data reproduction from a disc, and an interface circuit for performing communication

with an upstream device and with a system controller for controlling a disc drive apparatus, for controlling an interface communication section for performing communication with the upstream device and a system interface communication section for performing communication with the system controller, the interface control method comprising the steps of:

(a) executing first reset processing;

(b) requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) requesting the system interface communication section to receive a report of the permission of the execution of the second reset processing from the system controller;

(d) executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(e) requesting the interface communication section to report completion of the second reset processing to the upstream device.

22. An interface control method according to claim 21, wherein the interface communication section performs communication with the upstream device via a bus.

23. An interface control method according to claim 22, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

24. An interface control method according to claim 23, wherein:

the first reset processing does not include prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

25. An interface control method, in a disc drive apparatus including an interface circuit for performing communication with an upstream device and with a system controller, and the system controller, for controlling an interface communication section for performing communication with the upstream device and a system interface communication section for performing communication with the system controller, the interface control method comprising the steps of:

(a) executing first reset processing;

(b) requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) reporting the permission of the execution of the second reset processing to the interface circuit;

(d) requesting the system interface communication section to receive a report of the permission of the execution of the second reset processing from the system controller;

(e) executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(f) requesting the interface communication section to report completion of the second reset processing to the

upstream device;

wherein the system controller reports the permission of the execution of the second reset processing to the interface circuit.

26. An interface control method according to claim 25, wherein the interface communication section performs communication with the upstream device via a bus.

27. An interface control method according to claim 26, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

28. An interface control method according to claim 27, wherein:

the first reset processing does not include prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

29. An interface control method, in a disc drive apparatus including a disc controller and a system controller, for controlling an interface communication section for performing communication with an upstream device and with a system interface communication section for performing communication with the system controller;

the disc controller including:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with the upstream device and the system controller; and

the interface control method comprising the steps of:

(a) executing first reset processing;

(b) requesting the system interface communication section to request the system controller to permit execution of second reset processing which is different from the first reset processing;

(c) reporting the permission of the execution of the second reset processing to the interface circuit;

(d) requesting the system interface communication section to receive a report of the permission of the execution of the second reset processing from the system controller;

(e) executing the second reset processing in accordance with the report of the permission of the execution of the second reset processing; and

(f) requesting the interface communication section to report completion of the second reset processing to the upstream device;

wherein the system controller reports the permission of the execution of the second reset processing to the interface circuit.

30. An interface control method according to claim 29, wherein the interface communication section performs communication with the upstream device via a bus.

31. An interface control method according to claim 30, wherein:

the bus is an ATA/ATAPI bus,

the interface communication section is an ATA/ATAPI task file register, and

the interface circuit is an ATA/ATAPI interface circuit.

32. An interface control method according to claim 31, wherein:

the first reset processing does not include prescribed processing on self-diagnostic testing,

the second reset processing includes the prescribed processing on self-diagnostic testing, and

the self-diagnostic testing is processing for detecting an abnormality inside the disc drive apparatus.

33. An interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, the interface circuit comprising:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with a data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section, and the system interface communication section;

wherein:

the data buffer stores data;

the system controller requests the interface circuit to perform data transfer between the upstream device and the data buffer; and

the interface control section includes:

(a) a first request section for requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(b) a second request section for requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(c) a determination section for determining whether the data transfer between the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

34. An interface circuit according to claim 33, wherein:

the determination section includes: a section for determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section on the data transfer, and a section for determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and the data transfer between the data buffer and the buffer data transfer section has been completed, the determination

section determines that the data transfer between the upstream device and the data buffer has been completed.

35. An interface circuit according to claim 33, wherein the host data transfer section performs data transfer with the upstream device via a bus.

36. An interface circuit according to claim 35, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

37. A disc controller, comprising:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus;

wherein the interface circuit includes:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with a data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section, and the system interface communication section;

wherein:

the data buffer stores data;

the system controller requests the interface circuit to perform data transfer between the upstream device and

the data buffer; and

the interface control section includes:

(a) a first request section for requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(b) a second request section for requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(c) a determination section for determining whether the data transfer between the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

38. A disc controller according to claim 37, wherein:

the determination section includes: a section for determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section on the data transfer, and a section for determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and the data transfer between the data buffer and the buffer

data transfer section has been completed, the determination section determines that the data transfer between the upstream device and the data buffer has been completed.

39. A disc controller according to claim 37, wherein the host data transfer section performs data transfer with the upstream device via a bus.

40. A disc controller according to claim 39, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

41. A disc drive apparatus, comprising:

an interface circuit for performing communication with an upstream device and with a system controller;

a data buffer capable of storing data; and

the system controller;

wherein the interface circuit includes:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with the data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section, and the system interface communication section;

wherein:

the system controller requests the interface circuit to perform data transfer between the upstream device and the data buffer; and

the interface control section includes:

(a) a first request section for requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(b) a second request section for requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(c) a determination section for determining whether the data transfer between the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

42. A disc drive apparatus according to claim 41, wherein:

the determination section includes: a section for determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section on the data transfer, and a section for determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and the data transfer between the data buffer and the buffer data transfer section has been completed, the determination section determines that the data transfer between the

upstream device and the data buffer has been completed.

43. A disc drive apparatus according to claim 41, wherein the host data transfer section performs data transfer with the upstream device via a bus.

44. A disc drive apparatus according to claim 43, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

45. A disc drive apparatus, comprising:

a disc controller;

a data buffer capable of storing data; and

a system controller;

wherein the disc controller includes:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with an upstream device and with a system controller;

wherein the interface circuit includes:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with the data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section, and the system interface communication section;

wherein:

the system controller requests the interface circuit

to perform data transfer between the upstream device and the data buffer; and

the interface control section includes:

(a) a first request section for requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(b) a second request section for requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(c) a determination section for determining whether the data transfer between the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

46. A disc drive apparatus according to claim 45, wherein:

the determination section includes: a section for determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section on the data transfer, and a section for determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and

the data transfer between the data buffer and the buffer data transfer section has been completed, the determination section determines that the data transfer between the upstream device and the data buffer has been completed.

47. A disc drive apparatus according to claim 45, wherein the host data transfer section performs data transfer with the upstream device via a bus.

48. A disc drive apparatus according to claim 47, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

49. An interface control method, in an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, for controlling a host data transfer section for performing data transfer with the upstream device, a buffer data transfer section for performing data transfer with a data buffer, and a system interface communication section for performing communication with the system controller,

the data buffer storing data;

the system controller requesting the interface circuit to perform data transfer between the upstream device and the data buffer; and

the interface control method comprising the steps of:

(a) requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(b) requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(c) determining whether the data transfer between the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

50. An interface control method according to claim 49, wherein:

the step of determining includes the steps of: determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section on the data transfer, and determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and the data transfer between the data buffer and the buffer data transfer section has been completed, the data transfer between the upstream device and the data buffer is determined to have been completed.

51. An interface control method according to claim 49, wherein the host data transfer section performs data transfer with the upstream device via a bus.

52. An interface control method according to claim 51,

wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

53. An interface control method, in a disc controller including a disc recording and reproduction control section for performing data recording to and data reproduction from a disc, and an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, for controlling a host data transfer section for performing data transfer with the upstream device, a buffer data transfer section for performing data transfer with a data buffer, and a system interface communication section for performing communication with the system controller;

the data buffer storing data;

the system controller requesting the interface circuit to perform data transfer between the upstream device and the data buffer; and

the interface control method comprising the steps of:

(a) requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(b) requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(c) determining whether the data transfer between

the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

54. An interface control method according to claim 53, wherein:

the step of determining includes the steps of: determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section on the data transfer, and determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and the data transfer between the data buffer and the buffer data transfer section has been completed, the data transfer between the upstream device and the data buffer is determined to have been completed.

55. An interface control method according to claim 53, wherein the host data transfer section performs data transfer with the upstream device via a bus.

56. An interface control method according to claim 55, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

57. An interface control method, in a disc drive apparatus

including an interface circuit for performing communication with an upstream device and with a system controller, a data buffer capable of storing data, and the system controller, for controlling a host data transfer section for performing data transfer with the upstream device, a buffer data transfer section for performing data transfer with the data buffer, and a system interface communication section for performing communication with the system controller;

the system controller requesting the interface circuit to perform data transfer between the upstream device and the data buffer; and

the interface control method comprising the steps of:

(a) requesting data transfer between the upstream device and the data buffer;

(b) requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(c) requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(d) determining whether the data transfer between the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

58. An interface control method according to claim 57, wherein:

the step of determining includes the steps of: determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section on the data transfer, and determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and the data transfer between the data buffer and the buffer data transfer section has been completed, the data transfer between the upstream device and the data buffer is determined to have been completed.

59. An interface control method according to claim 57, wherein the host data transfer section performs data transfer with the upstream device via a bus.

60. An interface control method according to claim 59, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

61. An interface control method, in a disc drive apparatus including a disc controller, a data buffer capable of storing data, and a system controller, for controlling a host data transfer section for performing data transfer with the upstream device, and a buffer data transfer section for performing data transfer with the data buffer;

the disc controller including:

a disc recording and reproduction control section

for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with the upstream device and the system controller;

the system controller requesting the interface circuit to perform data transfer between the upstream device and the data buffer; and

the interface control method comprising the steps of:

(a) requesting data transfer between the upstream device and the data buffer;

(b) requesting the host data transfer section to perform data transfer between the upstream device and the host data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer;

(c) requesting the buffer data transfer section to perform data transfer between the data buffer and the buffer data transfer section in accordance with the request from the system controller to perform data transfer between the upstream device and the data buffer; and

(d) determining whether the data transfer between the upstream device and the data buffer has been completed or not based on a report from the host data transfer section on the data transfer and a report from the buffer data transfer section on the data transfer.

62. An interface control method according to claim 61, wherein:

the step of determining includes the steps of: determining whether the data transfer between the upstream device and the host data transfer section has been completed or not based on a report from the host data transfer section

on the data transfer, and determining whether the data transfer between the data buffer and the buffer data transfer section has been completed or not based on a report from the buffer data transfer section on the data transfer; and

when the data transfer between the upstream device and the host data transfer section has been completed and the data transfer between the data buffer and the buffer data transfer section has been completed, the data transfer between the upstream device and the data buffer is determined to have been completed.

63. An interface control method according to claim 61, wherein the host data transfer section performs data transfer with the upstream device via a bus.

64. An interface control method according to claim 63, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

65. An interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, the interface circuit comprising:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with a data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section,

and the system interface communication section;

wherein:

the data buffer stores data;

the system controller requests the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control section includes:

(a) a first request section for updating the data stored in the data buffer in accordance with the request from the system controller to update the data;

(b) a second request section for requesting the system interface communication section to report to the system controller that the update of the data has been completed; and

(c) a third request section for requesting the host data transfer section and the buffer data transfer section to transfer the updated data in accordance with the request from the system controller to transfer the updated data to the upstream device.

66. An interface circuit according to claim 65, wherein the host data transfer section performs data transfer with the upstream device via a bus.

67. An interface circuit according to claim 66, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

68. An interface circuit according to claim 66, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

69. A disc controller, comprising:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus;

wherein the interface circuit includes:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with a data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section, and the system interface communication section;

wherein:

the data buffer stores data;

the system controller requests the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control section includes:

(a) a first request section for updating the data stored in the data buffer in accordance with the request from the system controller to update the data;

(b) a second request section for requesting the system interface communication section to report to the system controller that the update of the data has been completed; and

(c) a third request section for requesting the host data transfer section and the buffer data transfer section

to transfer the updated data in accordance with the request from the system controller to transfer the updated data to the upstream device.

70. A disc controller according to claim 69, wherein the host data transfer section performs data transfer with the upstream device via a bus.

71. A disc controller according to claim 70, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

72. A disc controller according to claim 70, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

73. A disc drive apparatus, comprising:

an interface circuit for performing communication with an upstream device and with a system controller;

a data buffer capable of storing data; and

the system controller;

wherein the interface circuit includes:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with the data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section, and the system interface communication section;

wherein:

the system controller requests the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control section includes:

(a) a first request section for updating the data stored in the data buffer in accordance with the request from the system controller to update the data;

(b) a second request section for requesting the system interface communication section to report to the system controller that the update of the data has been completed; and

(c) a third request section for requesting the host data transfer section and the buffer data transfer section to transfer the updated data in accordance with the request from the system controller to transfer the updated data to the upstream device.

74. A disc drive apparatus according to claim 73, wherein the host data transfer section performs data transfer with the upstream device via a bus.

75. A disc drive apparatus according to claim 74, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

76. A disc drive apparatus according to claim 74, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

77. A disc drive apparatus, comprising:

a disc controller;

a data buffer capable of storing data; and

a system controller;

wherein the disc controller includes:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with an upstream device and with a system controller;

wherein the interface circuit includes:

a host data transfer section for performing data transfer with the upstream device;

a buffer data transfer section for performing data transfer with the data buffer;

a system interface communication section for performing communication with the system controller; and

an interface control section for controlling the host data transfer section, the buffer data transfer section, and the system interface communication section;

wherein:

the system controller requests the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control section includes:

(a) a first request section for updating the data stored in the data buffer in accordance with the request from the system controller to update the data;

(b) a second request section for requesting the system interface communication section to report to the system controller that the update of the data has been completed; and

(c) a third request section for requesting the host data transfer section and the buffer data transfer section

to transfer the updated data in accordance with the request from the system controller to transfer the updated data to the upstream device.

78. A disc drive apparatus according to claim 77, wherein the host data transfer section performs data transfer with the upstream device via a bus.

79. A disc drive apparatus according to claim 78, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

80. A disc drive apparatus according to claim 78, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

81. An interface control method, in an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, for controlling a host data transfer section for performing data transfer with the upstream device, a buffer data transfer section for performing data transfer with a data buffer, and a system interface communication section for performing communication with the system controller;

the data buffer storing data;

the system controller requesting the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control method comprising the steps of:

(a) updating the data stored in the data buffer in

accordance with the request from the system controller to update the data;

(b) requesting the system interface communication section to report to the system controller that the update of the data has been completed; and

(c) requesting the host data transfer section and the buffer data transfer section to transfer the updated data in accordance with the request from the system controller to transfer the updated data to the upstream device.

82. An interface control method according to claim 81, wherein the host data transfer section performs data transfer with the upstream device via a bus.

83. An interface control method according to claim 82, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

84. An interface control method according to claim 82, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

85. An interface control method, in a disc controller including a disc recording and reproduction control section for performing data recording to and data reproduction from a disc, and an interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus, for controlling a host data transfer section for performing data transfer with the upstream device, a buffer data transfer section for

performing data transfer with a data buffer, and a system interface communication section for performing communication with the system controller;

the data buffer storing data;

the system controller requesting the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control method comprising the steps of:

(a) updating the data stored in the data buffer in accordance with the request from the system controller to update the data;

(b) requesting the system interface communication section to report to the system controller that the update of the data has been completed; and

(c) requesting the host data transfer section and the buffer data transfer section to transfer the updated data in accordance with the request from the system controller to transfer the updated data to the upstream device.

86. An interface control method according to claim 85, wherein the host data transfer section performs data transfer with the upstream device via a bus.

87. An interface control method according to claim 86, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

88. An interface control method according to claim 86, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface

circuit.

89. An interface control method, in a disc drive apparatus including an interface circuit for performing communication with an upstream device and with a system controller, a data buffer capable of storing data, and the system controller, for controlling a host data transfer section for performing data transfer with the upstream device, a buffer data transfer section for performing data transfer with the data buffer, and a system interface communication section for performing communication with the system controller;

the system controller requesting the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control method comprising the steps of:

(a) requesting the interface circuit to update the data stored in the data buffer;

(b) updating the data stored in the data buffer in accordance with the request from the system controller to update the data;

(c) requesting the system interface communication section to report to the system controller that the update of the data has been completed;

(d) requesting the interface circuit to transfer the updated data to the upstream device; and

(e) requesting the host data transfer section and the buffer data transfer section to transfer the updated data in accordance with the request from the system controller to transfer the updated data to the upstream device.

90. An interface control method according to claim 89, wherein the host data transfer section performs data transfer

with the upstream device via a bus.

91. An interface control method according to claim 90, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

92. An interface control method according to claim 90, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

93. An interface control method, in a disc drive apparatus including a disc controller, a data buffer capable of storing data, and a system controller, for controlling a host data transfer section for performing data transfer with the upstream device, a buffer data transfer section for performing data transfer with the data buffer, and a system interface communication section for performing communication with the system controller;

the disc controller including:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an interface circuit for performing communication with an upstream device and with the system controller;

the system controller requesting the interface circuit to update the data stored in the data buffer and transfer the updated data to the upstream device; and

the interface control method comprising the steps of:

(a) requesting the interface circuit to update the

data stored in the data buffer;

(b) updating the data stored in the data buffer in accordance with the request from the system controller to update the data;

(c) requesting the system interface communication section to report to the system controller that the update of the data has been completed;

(d) requesting the interface circuit to transfer the updated data to the upstream device; and

(e) requesting the host data transfer section and the buffer data transfer section to transfer the updated data to the upstream device in accordance with the request from the system controller to transfer the updated data to the upstream device.

94. An interface control method according to claim 93, wherein the host data transfer section performs data transfer with the upstream device via a bus.

95. An interface control method according to claim 94, wherein the data stored in the data buffer is device information data requested by the upstream device for identifying a device connected to the bus.

96. An interface control method according to claim 94, wherein:

the bus is an ATA/ATAPI bus, and

the interface circuit is an ATA/ATAPI interface circuit.

97. An ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus which is

connected to an ATA/ATAPI bus as a master device, the ATA/ATAPI interface circuit comprising:

an ATA task file register for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller;

a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device; and

an interface control section for controlling the ATA task file register, the interface communication section, and the pseudo task file register;

wherein:

the upstream device is connected to the ATA/ATAPI bus;

the system controller reports operation method information to the ATA/ATAPI interface circuit;

the operation method information represents an operation performed by the master device when the upstream device attempts to access the slave device in a state where the slave device is not connected to the ATA/ATAPI bus; and

the interface control section includes:

(a) a request section for requesting the system interface communication section to receive the operation method information reported by the system controller; and

(b) a setting section for setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.

98. A disc controller, comprising:

a disc recording and reproduction control section

for performing data recording to and data reproduction from a disc; and

an ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus which is connected to an ATA/ATAPI bus as a master device,

wherein the ATA/ATAPI interface circuit includes:

an ATA task file register for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller;

a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device; and

an interface control section for controlling the ATA task file register, the system interface communication section, and the pseudo task file register;

wherein:

the upstream device is connected to the ATA/ATAPI bus;

the system controller reports operation method information to the ATA/ATAPI interface circuit;

the operation method information represents an operation performed by the master device when the upstream device attempts to access the slave device in a state where the slave device is not connected to the ATA/ATAPI bus; and

the interface control section includes:

(a) a request section for requesting the system interface communication section to receive the operation method information reported by the system controller; and

(b) a setting section for setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.

99. A disc drive apparatus, comprising:

an ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller; and

the system controller;

wherein:

the disc drive apparatus is connected to an ATA/ATAPI bus as a master device; and

the ATA/ATAPI interface circuit includes:

an ATA task file register for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller;

a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device; and

an interface control section for controlling the ATA task file register, the system interface communication section, and the pseudo task file register;

wherein:

the upstream device is connected to the ATA/ATAPI bus;

the system controller reports operation method information to the ATA/ATAPI interface circuit;

the operation method information represents an operation performed by the master device when the upstream device attempts to access the slave device in a state where the slave device is not connected to the ATA/ATAPI bus; and

the interface control section includes:

(a) a request section for requesting the system

interface communication section to receive the operation method information reported by the system controller; and

(b) a setting section for setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.

100. A disc drive apparatus, comprising:

a disc controller; and

a system controller;

wherein the disc controller includes:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller;

wherein:

the disc drive apparatus is connected to an ATA/ATAPI bus as a master device; and

the ATA/ATAPI interface circuit includes:

an ATA task file register for performing communication with the upstream device;

a system interface communication section for performing communication with the system controller;

a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device; and

an interface control section for controlling the ATA task file register, the system interface communication section, and the pseudo task file register;

wherein:

the upstream device is connected to the ATA/ATAPI bus;

the system controller reports operation method information to the ATA/ATAPI interface circuit;

the operation method information represents an operation performed by the master device when the upstream device attempts to access the slave device in a state where the slave device is not connected to the ATA/ATAPI bus; and

the interface control section includes:

(a) a request section for requesting the system controller interface section to receive the operation method information reported by the system controller; and

(b) a setting section for setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.

101. An interface control method, in an ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus which is connected to an ATA/ATAPI bus as a master device, for controlling an ATA task file register for performing communication with the upstream device, a system interface communication section for performing communication with the system controller, and a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device;

the upstream device being connected to the ATA/ATAPI bus;

the system controller reporting operation method information to the ATA/ATAPI interface circuit;

the operation method information representing an

operation performed by the master device when the upstream device attempts to access the slave device in a state where the slave device is not connected to the ATA/ATAPI bus; and

the interface control method comprising the steps of:

(a) requesting the system interface communication section to receive the operation method information reported by the system controller; and

(b) setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.

102. An interface control method, in a disc controller including a disc recording and reproduction control section for performing data recording to and data reproduction from a disc, and an ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller for controlling a disc drive apparatus which is connected to an ATA/ATAPI bus as a master device, for controlling an ATA task file register for performing communication with the upstream device, a system interface communication section for performing communication with the system controller, and a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device;

the upstream device being connected to the ATA/ATAPI bus;

the system controller reporting operation method information to the ATA/ATAPI interface circuit;

the operation method information representing an operation performed by the master device when the upstream device attempts to access the slave device in a state where

the slave device is not connected to the ATA/ATAPI bus; and

the interface control method comprising the steps of:

(a) requesting the system interface communication section to receive the operation method information reported by the system controller; and

(b) setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.

103. An interface control method, in a disc drive apparatus including an ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller, and the system controller, the disc drive apparatus being connected to an ATA/ATAPI bus as a master device, for controlling an ATA task file register for performing communication with the upstream device, a system interface communication section for performing communication with the system controller, and a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device;

the upstream device being connected to the ATA/ATAPI bus;

the system controller reporting operation method information to the ATA/ATAPI interface circuit;

the operation method information representing an operation performed by the master device when the upstream device attempts to access the slave device in a state where the slave device is not connected to the ATA/ATAPI bus; and

the interface control method comprising the steps of:

(a) reporting the operation method information to

the ATA/ATAPI interface circuit;

(b) requesting the system interface communication section to receive the operation method information reported by the system controller; and

(c) setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.

104. An interface control method, in a disc drive apparatus including a disc controller and a system controller, the disc drive apparatus being connected to an ATA/ATAPI bus as a master device, for controlling an ATA task file register for performing communication with the upstream device, a system interface communication section for performing communication with the system controller, and a pseudo task file register operating instead of an ATA task file register included in a slave device corresponding to the master device;

the disc controller including:

a disc recording and reproduction control section for performing data recording to and data reproduction from a disc; and

an ATA/ATAPI interface circuit for performing communication with an upstream device and with a system controller;

the upstream device being connected to the ATA/ATAPI bus;

the system controller reporting operation method information to the ATA/ATAPI interface circuit;

the operation method information representing an operation performed by the master device when the upstream device attempts to access the slave device in a state where the slave device is not connected to the ATA/ATAPI bus; and

the interface control method comprising the steps of:

(a) reporting the operation method information to the ATA/ATAPI interface circuit;

(b) requesting the system interface communication section to receive the operation method information reported by the system controller; and

(c) setting a value to be held by the pseudo task file register based on the operation method information;

wherein the value is a value regarding the operation method information.